TEXTILE TECHNOLOGY DIGEST

VOLUME 12 JANUARY, 1955 NUMBER 1

ABSTRACTS

Col. 1 Col. 2

FIBERS A

Harris' Handbook of textile fibers

Harris Research Laboratories. Wash.: 1954. 356p. $12.50.

The main contribution of the handbook is to bring together data on chemical and physical properties and chemical compositions that are widely scattered through the literature. Two sections were contributed by outside authorities: a section on microscopy by C. W. Hock of Hercules Powder Co. and a section on X-ray diffraction by J. A. Howsman of American Viscose Corp. The handbook includes data on all fibers available at the publication date. A well-organized index lists references according to the fiber name with property references underneath. Review in *Textile World 104:* 188 (Dec. 1954).

Fibers and friction

Brit. Rayon & Silk J. 31: 60-64 (October 1954).

Recent advances in knowledge of fiber friction in the processing and ultimate properties of textile materials are summarized from papers presented at a conference in Ghent organized by the Textile Institute.

NATURAL FIBERS A 1

Chemical cottons threatening synthetics?

Textile Bull. 80: 80-86 (November, 1954).

A survey of progress and prospects in chemically-modified cotton as brought out in papers at the National Cotton Council's third annual Chemical Finishing Conference in October 1954.

Mechanical properties of decrystallized cotton

D. E. Brooks. *Textile Mfr. 80:* 582-586 (November, 1954).

The Southern Regional Research Laboratory has developed a treatment for cotton fibers which increases their extensibility without lowering their tenacity. The modification is brought about by an amine treatment which reduces the originally high crystallinity of native cotton. 11 references.

1954 Georgia cotton

P. M. Thomas. *Textile World 104:* 105 (December, 1954).

First ginnings of Coker 100-Wilt cotton in southwest Georgia show that, in comparison with 1953 cotton, early 1954 Georgia cotton is higher in grade but has shorter staple, makes more waste for the grade of cotton, and makes yarn poorer in strength and appearance. Fiber and spinning test data.

PIMA-S-1: a new American-Egyptian cotton

P. M. Thomas. *Textile World 104:* 79 (December, 1954).

Fiber and spinning data are given for Pima S-1. Better mill performance can be expected from the new Pima S-1 variety. Because of its success, the new variety is replacing Pima 32 this year in Arizona.

Systems of preformed splitting areas in native cellulose fibers

H. Dolmetsch. *Melliand Textilber. 35, No. 7:* 721-725 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 787 (October, 15, 1954).

In every native cellulose fiber, two different splitting systems can be detected whose splitting directions intersect approximately at right angles: the fibrillar system in the longitudinal direction, and the system of cavities joined at surfaces resembling cross-sections. It is possible to detect, in undergraded cleavage particles of either system, the periodical passages of the other system. These homogeneous basic elements of the cellulose fibers are shown on photomicrographs (optical microscope) and compared with electronmicroscopical observations. 9 references.

Real retting and pseudo-retting of bast fibers

H. Schonefeld. *Chem. Tech. (Berlin) 6:* 152-160 (1954); *in German.* Through *Chem. Abstracts 48:* 14216 (November 25, 1954).

Processes for carrying out the disintegration and removal of pectins from bast fibers are reviewed. 13 references.

Coir fiber

T. V. Punnoose. *Indian Textile J. 64:* 750-753 (September, 1954).

A general survey of the coir fiber (from the husks of coconuts) and its uses in matting and rugs.

Wool: its chemistry and physics

P. Alexander and R. F. Hudson. London: Chapman & Hall, 1954. 404p. Through *Brit. Cotton Ind. Research Assoc. 34:* 788 (October 15, 1954).

This monograph has chapters on the morphological structure, surface properties, mechanical properties, sorption and swelling, rate processes within the fiber, acid-base characteristics, ion exchange and dyeing equilibria, the disulfite bond, chemical reactivity, formation of new cross-links, chemical composition, and stereochemistry and macromolecular structure. General explanations on an elementary level precede the introduction of advanced ideas and developments; no attempt has been made to provide a complete bibliography.

Wool-correlating fiber structure with fiber properties

B. C. M. Dorset. *Textile Mfr. 80:* 506-509 (October, 1954).

A discussion of recent research showing that the cortex is composite in character by consisting of two hemi-cylinders of keratin (each an agglomeration of spindle cells) twisted about each other with a pitch exactly corresponding to the periodicity of the crimps present in the wool fiber.

Relationship of fiber form and staple crimp in Merino wool

Y. E. Goldworthy and W. R. Lang (Gordon Institute of Technology). *J. Textile Inst. 45:* T755-T773 (October, 1954).

It has been believed generally that staple crimp is formed by the congruence of a majority of the fiber crimped forms. It has been disclosed in this paper that staple crimp may be a minority effect and the fibers producing successive elements of the staple crimp may not be the same throughout. The shorter fibers may be straighter, and the longer made more convolute, than the average, because of adhesion of the majority of the fibers in the tip at an early stage in the season. It is not unlikely that adhesion may occur elsewhere in the staple, thus preventing a 'phalanx' effect, in that fiber elements grown at the same period may remain adjacent in the staple depite differential rates of growth in length. 24 references.

Asbestos for textiles

Z ges. Textil-Ind. 56, No. 14: 897-899 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 756 (October 15, 1954).

A brief account is given of historical data, types of asbestos, their composition and chemical and textile properties, uses, and processing methods.

Raw materials for asbestos spinning mills

J. Schlegler. *Textil-Praxis 9, No. 6:* 521-522 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 756 (October 15, 1954).

Description is given of the occurrence, mining, spinning properties and uses of the two main types of asbestos, serpentine and amphibol asbestos (Amosit).

MAN-MADE FIBERS A 2

Fiber data sheets: synthetic fibers

P.-A. Koch. *Fibres 15:* 382-386 (November, 1954).

This extensive tabular survey of the synthetic fibers includes types, characteristic data, distinguishing features, historical information, etc. 42 references.

Producers of man-made yarns and fibers (United States)

Textile Age 18: 44-45 (December, 1954).

Names, addresses, sales offices, and products are listed.

Man-made fibers for industrial uses

B. S. Farquhar (E. I. du Pont de Nemours and Co., Inc.). *Can. Textile J. 71:* 63-70 (November 19, 1954).

Considering fibers as raw materials which can be used to solve technical problems in industry is a relatively new concept. Various industrial problems that have been solved effectively and economically by using the newer synthetic fibers are presented.

Industrial applications for synthetic fibers

J. M. Swanson (E. I. du Pont de Nemours & Co.). *Textile Age 18:* 62-63 (December, 1954).

Properties and uses of Dacron felts, reinforced plastics, and Teflon tetrafluoroethylene fiber are briefly discussed.

Man-made fibers in the rubber industry. Part 1

J. W. Illingworth (Dunlop Research Center). *Fibres 15:* 361-364 (November, 1954).

The evolution of the pneumatic tire is de-

scribed, with reference to the eclipse of cotton by rayon for tire fabrics. Mention is also made of the newer man-made fibers and their suitability for fulfilling the requirements of a satisfactory tire casing material. Two important requirements, tensile strength and adhesion, are discussed in detail.

Textile properties of the synthetic fibers

T. H. Morton (Courtaulds Ltd.). *J. Appl. Chem. 4:* 525-538 (October, 1954).

The number of possible fiber-forming high polymers is very great, but the screening of these materials by various tests reduces them to a quite small group of substances suitable for general textile use. The range of available synthetic fibers is discussed and some indication is given of the criteria useful in examining a new fiber-forming polymer in order to decide its textile utility.

Arnel

P. O'Dell. *Modern Textiles Mag. 35:* 36, 54 (November, 1954); *Textile Age 18:* 68-69 (December, 1954).

Properties, uses, and special features of the cellulose triacetate fiber recently introduced by the Celanese Corp. Ease-of-care and wash-and-wear characterize this new fiber.

Friction and lubrication of nylon

R. C. Bowers, W. C. Clinton and W. A. Zisman. U. S. Naval Research Laboratory. July 1954. 13p. Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. $.50. PB 111 510.

The static and kinetic friction for steel against nylon and for nylon against nylon both dry and lubricated have been studied. Lubricants studied included water, ethylene glycol, glycerine, fatty acids, paraffins, silicones, an alcohol, an amine and a fluorinated acid, amine and hydrocarbon.

Use of nylon in the rubber industry. Part 1

H. C. Merseau. *Can. Textile J. 71:* 71-73 (November 19, 1954).

The author surveys and explains the properties of nylon in connection with this specific end-use.

New condensation polymers: the polyaminotriazoles

J. W. Fisher (British Celanese Ltd.). *Fibres 15:* 365-368 (November, 1954).

The polyaminotriazoles can be spun into fibers which on cold drawing provide textile yarns similar to the nylons in degree of crystallinity and orientation, having also excellent dye affinity. The chemistry, preparation and properties of the polyaminotriazoles are described. 6 references.

YARN PRODUCTION B

United States spinning methods

F. Charnley (British Rayon Research Assoc.). *Textile Wkly. 54:* 1535-1538 (November 12, 1954).

Machinery and methods as observed on a visit to the United States.

Blending problems in the woolen industry

P. P. Townend. *J. Textile Inst. 45:* P632-P636 (October, 1954).

Production of blended worsted greys. Part 2

P. P. Townend and P. V. Beardsworth. *Textile Recorder 72:* 99-100 (November, 1954).

Processing blends of various depths of shade.

Terylene staple fiber on the worsted and woolen systems

Brit. Rayon & Silk J. 31: 51-53 (September, 1954).

Notes on fiber and yarn properties and processing.

Basic methods and procedures for the card-room overseer

N. H. Pomfret. *Textile World 104:* 121-123, 192-194 (December, 1954).

Without a standards department, the card-room overseer must rely on his knowledge of processing principles and his ability to develop his own set of standards. The basic methods and procedures that result in high-quality roving are surveyed.

OPENING, PICKING, FIBER PREPARATION B 1

Moisture indicator on picker helps improve yarn count uniformity

Textile Ind. 118: 160 (December, 1954).

Moisture regain is checked once each hour and tare weights are added at picker lap scales to compensate for changes in moisture content to assure as closely as possible the same amount of cotton (on bone dry basis) in each lap.

CARDING AND COMBING B 2

Carding. Part 1

E. Sattler. *Melliand Textilber. 35:* 1217-1221 (November, 1954); *in German.*

The type of fiber, roll settings, surface speeds of the rolls, and card clothing dimensions all govern the speed and quantity of fibers passing

through the card. Experiments have been carried out to obtain information on the way that fibers travel in carding. The passage of the fibers from one roller to the other is also discussed. On the basis of test results, the author describes how the uniformity of the fiber blend improves as it passes through the card, and gives a detailed report on questions connected with the pressure, or excess pressure, applied to the fibers during the process of carding. 10 references.

Improve your carding

J. F. Bogdan (School of Textiles, N. C. State College). *Textile Forum 11:* 15-18, 24-25 (October, 1954).

The study of any preparatory textile process must consider the effect of proposed changes on quality, production, and waste. Gains in these three directions are accomplished through improvements realized by changes in speeds, settings, by mechanical modifications, and by invention. The author reviews the theory of the carding process and discusses practical suggestions for a mill program for carding improvement.

Installing individual card drives

W. A. Williams. *Textile Ind. 118:* 98-101 (December, 1954).

The following factors are considered: first cost, operating cost, production rate, effect on quality, flexibility of operation, appearance of card room, floor plan, and safety.

Relationship between the speed of the doffing comb and that of the card doffer

N. I. Tshemissov. *Tekstil. Prom. No. 10:* 16-17 (1953); *in Russian.* Through *Brit. Cotton Ind. Research Assoc. 34:* 759 (October 15, 1954).

On investigating the motions of the card doffer and the doffing comb, the author found that the length of the lap removed can be determined from the equation: $s_b = (v_h + v_b)\ t_1 = s_h + v_b\ t_1$, where s_b is the length of the lap removed in cm, v_b the surface speed of the taker-in in cm/sec, v_h the mean speed of the doffing comb per working section in cm/sec, s_h the working portion of the comb path in cm, and t_1 the time in which the lap is removed in seconds. The author calculated from this equation the formula for the oscillating movement of the doffing comb n_h per minute, from which both the surface rate and number of revolutions of the doffer can be determined as a function of the oscillation number of the doffing comb.

Theory of carding

P. M. Strang. *Am. Textile Reptr. 68:* 10-11, 47-50 (November 25, 1954).

DRAWING AND ROVING B 3

Causes of irregularity in sliver and ribbon lapping

W. Wegener and J. Delventhal. *Z. ges. Textil-Ind. 56:* 1265-1269 (November 5, 1954); *in German.*

The author stresses the importance of proper machine operation for uniform product. A method is shown for isolating equipment which is operating in a faulty manner, by comparing calculated stretch with actual stretch in the material processed.

Raper worsted drawing system and the Raper autoleveller

Prince-Smith and Stells Ltd. *Textile Merc. 131:* 859-862, 868 (November 12, 1954); *Textile Wkly. 54:* 1200-1206 (October 15, 1954).

Technical details of the Raper system and of the principles underlying its application.

Relationships between the variations in weight, cohesive power and cross sections of slubbing from wool and staple fiber

G. Nitschke. *Faserforsch. u. Textiltech. 5, No. 7:* 297-301 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 809 (October 30, 1954).

By comparing the diagrams and calculating the correlation coefficients, it has been found that the deviations in cross section and weights of wool and staple fiber slubbings are parallel, this tendency being more distinct with decreasing test length. During determination of the cohesive power, breakage of the slubbing generally takes place at the smallest cross section, but at a relatively large test length of 30 or 60 cm it can also be affected by adjacent thin places. The Uster diagram (for wool slubbing) was also found to show the agglomeration of short fibers below 40 mm length in relation to the weight of the fibers. The relationship between the higher fat content found in the short fibers below 40 mm and their accidental agglomeration in the cross section of the wool slubbing has not been established. It is concluded that the variations in the cross section and weight determine the irregularity of slubbing, and the deviations in cohesive powet determine the irregularities due to variations in fiber cohesion in the slubbing system. 12 references.

SPINNING, WINDING, TWISTING B 4

Controlled balloon spinning

G. M. Bracewell and K. Greenhalgh. *J. Textile Inst. 45:* T730-T754 (October, 1954).

In a previous paper (*J. Textile Inst. 44:* T266-T292, June, 1953), experiments were described relating to the mathematical analysis of the spinning balloon. The present communication gives an outline of a spinning system, now the subject of British patents, which can be effectively used to increase the production of ring frames, particularly of the long-lift type.

Ends-down analysis pinpoints spinning trouble

E. H. Helliwell. *Textile World 104:* 125, 194-197 (December, 1954).

Faults corrected in spinning of 28s warp yarn included: dull skewers, bad roving, bad piecing up, lint on travelers, incorrect travelers, and fluctuating humidity.

Double creel or single creel spinning?

G. Gage. *Bobbin and Beaker 13:* 9-10 (Fall, 1954).

Results of work done at Clemson Textile School are presented and discussed.

Spinning of cotton waste in counts Ne 0.85 to 2.0

F. Siebert. *Textil-Praxis 9, No. 6:* 533-534 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 760 (October 15, 1954).

Data are given obtained from experiments carried out on new machines for spinning various cotton waste materials with and without admixture; they concern staple length, count, twist per m, number of can-revolutions, spinning rate in m/min. and theoretical yield in g/hour. Modern roving feeding, control of the number of can revolutions, can drives, and the multiple-cop system are briefly outlined.

Blends of wool and man-made fibers. Part 3. Mule spinning

Textile Recorder 72: 89-91 (November, 1954).

Features and adaptability of the woolen ringframe. Part 1

J. A. B. Mitchell. *Textile Mfr. 80:* 520-522 (October, 1954).

Consideration of the several factors deciding the main drive from shaft or motor, driving of the spindles, changes in direction of twist and calculations of the spindle speed with different tin roll speeds.

Spinesso and Telura

Oilways 20: 18-20 (November, 1954).

The use of Esso Spinesso oils for spindle and twister ring lubrication and Telura oils for twister rings is described.

YARNS B 5

Handbook of twisting. Chapter 4. Part 1. Effect of twist on strength

N. Truslow (United States Rubber Co.). *Textile Bull. 80:* 106-110 (November, 1954).

New fancy yarn effects

P. Antoine. *Industrie Textile:* 341-344 (May, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 34:* 761 (October 15, 1954).

New effects can be obtained by twisting together two or more threads to obtain a compound yarn, and then separating the individual threads and preserving the deformation (helical form) to which they were subjected during the twisting operation. This deformation can be fixed, in the case of polyamides, by a suitable thermal treatment. The process and the respective equipment are described.

Yarn without twisting

Proctor and Schwartz Co. *Am. Textile Reptr. 68:* 19, 35 (December 2, 1954); *Textile World 104:* 129 (December, 1954).

This new process for producing yarn (Tek-Ja) without twisting is conventional up through roving. An adhesive is added to the drawn ribbon of correct yarn weight. After the fabric is finished, the adhesive is washed out in the regular finishing process. Machine, process, and yarn properties are described.

FABRIC PRODUCTION C

Practical cloth making. Part 1

S. Brierley. *Textile Mfr. 80:* 565-566 (November, 1954).

Some factors for consideration in planning finished wool fabrics. Raw materials and types of yarns and cloths are discussed.

WARPING, SLASHING, YARN PREPARATION C 1

Interpretation of sizing analysis

P. Seydel (Seydel-Woolley & Co.). *Textile Bull. 80:* 76-79 (November, 1954).

A general discussion of the ingredients of sizes.

Leaser for sectional warps

J. Francois. *Industrie Textile:* 263-264 (April, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 34:* 767 (October 15, 1954).

A device is described and illustrated, which consists of an adjustable frame into which one or more rods separating the threads can be inserted,

and a reed placed between the frame and the warper. After insertion of the rods into the frame, it is not necessary to remove these rods during work prior to the crosssing of the warp threads and for insertion of the lease band.

Precalculation of the warp length for utilization of the warp beam flanges

E. O. Hesse. *Melliand Textilber. 35:* 1227-1229 (November, 1954); *in German.*

The author discusses some processes for calculating the length of the warp and the diameter of the warp beam, and compares them with his own method. He gives examples from mill practice to illustrate his remarks.

Rational warping of warps with a large number of repeats

H. Petzold. *Textil-Praxis 9, No. 5:* 439-440 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 767 (October 15, 1954).

A new method is described which, as compared to the old method on the cone-warper, saves 158.6 minutes in the case of a warp with 2,640 threads and 960 m length at a repeat of 660 threads.

Rewinding and requilling filling yarn

S. A. Roane (Abbott Machine Co.). *Textile Age 18:* 70-74 (December, 1954).

Advantages of this method of processing in various mills and on various types of fabrics.

WEAVING C 2

ASTRA weaving machine with reshuttling motion, model GMWA

J. Duessen. *Melliand Textilber. 35, No. 6:* 674-675 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 767 (October 15,1954).

The machine described is constructed so that when using only one kind of weft at an odd number of weft insertions the bobbins are automatically exchanged to compensate for any differences in thickness or color of the weft material by continuous mixing.

Automatic unwinding of the warp from the beam

M. Dubar. *Industrie Textile:* 275-276 (April, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 34:* 768 (October 15, 1954).

The simple and inexpensive brake described (developed by G. Landry) can be easily adapted to existing looms. The cord, chain, or steel band is passed over the brake ring of the beam and is tightened by means of a spring with one end fixed to a point, whose position varies automatically as a function of the diameter of the full beam, and which is displaced by a feeler in constant contact with the beam.

Better weaving on pick-and-pick looms

C. S. Bicksler. *Textile World 104:* 114-115 (December, 1954)

Small adjustments cause most of the trouble on pick-and-pick looms.

Center selvage on circular looms

P. Grivor. *Industrie Textile:* 267-269 (April, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 34:* 768 (October 15, 1954).

A device for use on circular looms is described which causes the two selvage threads to cross after each insertion of two weft threads by two consecutive shuttles, one of the selvage threads lying above and the other below the weft so as to insure a perfect fell of the cloth.

Center selvages

W. Middlebrook. *Textile Mfr. 80:* 523-525 (October, 1954).

With center selvages, the only fault as far as the cloth is concerned is failure of the split motion due to faulty setting of the chains, wrong timing of the needles in mechanical split motions, or breaking of the crossing or chain that controls it.

Converting rayon looms to automatics

Skinner's Silk & Rayon Record 28: 1162-1163 (November, 1954).

The French Butin shuttle changing attachment for a standard four-box loom. Features of the mechanism and its operation are explained.

Development and improvement of loom pickers

D. Schachoff. *Textil- u. Faserstofftech. 4. No. 6:* 339-343 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 768 (October 15, 1954).

Abstracts from patent literature are given to show the development of pickers since 1882. Characteristics of the individual inventions are illustrated.

Fundamentally new assessment of loom design

D. Brunnschweiler. *Skinner's Silk & Rayon Record 28:* 1154-1156 (November, 1954).

The GPR loom series of Butterworth and Dickinson Ltd. are constructed to a single basic design. A description is given of this design and the different mechanisms which can be added to it.

Hydraulic shaft control

J. Martinek. *Melliand Textilber. 35:* 1229-1230 (November, 1954); *in German.*

The author suggests that the mechanical control of the shafts should be replaced by a hydraulic control, and offers a design for this purpose. He points out the advantages of this new method. In particular, it would permit the rapid adjustment of a greater number of different weaves, and thus the production of an extensive variety of different fabrics.

Jerked-in filling

W. C. Westbrook. *Textile World 104:* 106-107, 190-192 (December, 1954).

In contrast to most common cloth defects, jerked-in filling is weave-room-made defect. Causes and control are discussed.

Loom accessories: Warp stop motion with detectors

German Standards Committee. *Textil-Praxis 9, No. 6:* 538 (1954); *in German.* Through *Brit. Cotton. Ind. Research Assoc. 34:* 768 (October 15, 1954).

The draft for the specification DIN 64 608 contains constructional details of warp stop motions with detectors (drawings, dimensions, material and surface finish).

KNITTING C 3

Amplistat regulated speed variator

R. E. Parker (General Electric Co.). *Textile Age 18:* 76-82 (December, 1954).

Machine operation and drive requirements for this drive for full fashioned hosiery pertain particularly to the Textile Machine Works Reading 100 full fashioned knitting machine. The details included are based on tests of one machine.

Guide to fixing Banner SCP knitting machines. Part 2

C. C. Auton (Fairview Hosiery Mills, Inc.). *Textile Ind. 118:* 102-107 (December, 1954).

A quick reference guide for diagnosing and correcting troubles with the machine.

Movement timing and control. Part 4. Latch needle flat machines

J. B. Lancashire. *Textile Recorder 72:* 92-93 (November, 1954).

Principles of weft knitting. Part 17. Fully-fashioned hose manufacture

S. B. Bradley. *Brit. Rayon & Silk J. 31:* 62-63 (November, 1954).

These notes on linking and seaming conclude the author's account of fully-fashioned hose manufacture. The complete series of articles with additional matter and elaboration of detail is now available as a book.

Manufacture and design of nylon tricot. Part 2

J. Rab. *Knitter 18:* 46-49 (November, 1954).

FABRICS C 4

Studies on the interrelationship of staple fiber characteristics, fabric manufacturing processes and serviceability

R. G. Stoll. U. S. Office of the Quartermaster General. Research and Development Division. Textiles, Clothing and Footwear Branch. May 1954. 85p. Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. $2.00. PB 111 472. Textile series report no. 84.

This paper describes a comprehensive statistically designed experiment covering the manufacture of 72 spun rayon fabrics, the evaluation of the processing characteristics, and a comprehensive analysis of the fabric properties and the interactions with fabric design and finish on the basis of laboratory data and evaluation of aesthetic appeal and service performance.

New fabrics: imitation velvet

P. Nivel. *Industrie Textile:* 352-353 (May, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 34:* 770 (October 15, 1954).

In the manufacture of this fabric, use is made of the contracting properties of certain synthetic fibers (e.g. polyvinyl chloride) when submitted to a special heat-treatment. The fabric comprises (a) a ground warp formed by threads consisting of the contractible substance and (b) of a pile warp whose threads are of a material insensitive to the heat-treatment. After weaving, the heat-treated contracting ground warp draws up the pile warp connected with it, thus forming tufts similar to those obtained in warp-pile fabrics. In order to avoid flattening of the tufts, they are supported by alternate rows of low tufts produced by a suitably inserted second pile warp.

The stocking

Ciba Rev. No. 106: 3794-3825 (October, 1954).

An illustrated history of the stocking and stocking manufacture: *Modern stocking manufacture,* p. 3794-3796, *The knitted stocking,* p. 3799-3803, *The stocking frame,* p. 3805-3809, *The growth of the hose knitting industry,* p. 3811-3818, *Fashions in stockings,* p. 3821-3825, *Bibliography,* p. 3825.

Warp streaks

M. R. Harden. *Textile Ind. 118:* 92-97 (December, 1954).

Causes and prevention of warp streaks in fabrics manufactured from pre-dyed stock.

Design in woven structure. Part 24. Superimposing weaves to produce crepes

D. C. Snowden. *Wool Rev. 27:* 34-35 (November, 1954).

FINISHING AND CHEMICAL PROCESSING D

Case study data on productivity and factory performance: cotton textile dyeing and finishing

U. S. Bureau of Labor Statistics. June, 1954. 155p. Available from U. S. Bureau of Labor Statistics, Washington 25, D. C. PB 115 052.

Dyeing and finishing hose made from polyamide fibers

A. Weber. *Ciba Rev. No. 106:* 3827-3830 (October, 1954).

Tables for finishing losses

G. Feldner. *Textil-Praxis 9, No. 6:* 572-573 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 774 (October 15, 1954).

The tables given show changes in width, length and weight, tensile strength, and elongation, due to various finishing processes, for various fabrics whose construction is described.

What's new in finishes

J. Campbell. *Modern Textiles Mag. 35:* 31, 41, 46, 84 (November, 1954).

A review of fabric finishing products brought out during the previous year.

CHEMICAL PROCESSES D 1

Terylene staple fiber on the worsted and woolen systems

Brit. Rayon & Silk J. 31: 80-82 (October, 1954).

Recommended practices for the wet processing of yarns and fabrics containing Terylene staple.

Crease-resist finishes on spun viscose rayon fabrics

H. W. Best-Gordon (Courtaulds Ltd). *Brit. Rayon & Silk J. 31:* 46-47 (September, 1954).

Present day finishes, processes, and problems.

Textile finishing in relation to the cellulosic man-made fibers. Part 1. Crease-resist processes

H. A. Thomas (Courtaulds Ltd). *Brit. Rayon & Silk J. 31:* 70-77 (September, 1954).

A general treatise on modern rayon finishes in which the author touches upon theory, practical problems and the evaluation of results. 16 references.

Evolution of permanent fire- and water-proofing preparations

K. Quehl. *Industrie Textile No. 812:* 521-527 (1954); *in French.* Through *Chem. Abstracts 48:* 14221 (November 25, 1954).

A review of progress in the development of fireproofing and waterproofing preparations, permanent to weathering and to laundering.

Shrinkage control and durability of finish

J. A. Woodruff. *Textile Mfr. 80:* 587-592 (November, 1954).

Several chemical formulations are available for treating rayon in such a manner that proper mechanical finishing will result in fabrics having good shrinkage control. The Avcoset program represents an industry-wide use of one of these chemical treatments with tested minimum requirements of durability and a labelling system.

Present state of water-proofing finishing processes. Part 1

R. Keppler. *Textil-Praxis 9, No. 6:* 577-580 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 780 (October 15, 1954).

In this review (14 literature and patent references), the author discusses the principles of water-proofing, testing methods, and finishing processes (esterification, etherification, etc.).

Present development of one-bath impregnating agents and critical examination of their stability to washing

G. Wittmann. *Textil-Praxis 9, No. 6:* 545-546 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 780 (October 15, 1954).

Properties of water-repellent impregnations are discussed and it is concluded that the one-bath emulsion is the most economical and suitable method for water-repellent finishes on textiles. It is superior to other agents and stable to the usual washing test with soap and soda.

Textile finishing in relation to the cellulosic man-made fibers. Part 2. Dimensional stability, water repellency, and other finishes

H. A. Thomas (Courtaulds Ltd). *Brit. Rayon & Silk J. 31:* 66-67 (October, 1954).

A general treatise on modern rayon finishes in which the author touches upon theory, practical problems, and the evaluation of results. 6 references.

Waterproofing and water repellency

A. Taral. *Industrie Textile:* 280-287, 364-368, 583-588, 659, 664 (1954); *in French.* Summary in *Chem. Abstracts 48:* 14222 (November 25, 1954).

A review of water-repellent and waterproofing treatments for fabrics. Patents are reviewed.

Silicones

Brit. Rayon & Silk J. 31: 45-48 (November, 1954).

A survey of silicones and their significance in textiles. The chemistry, manufacture and applications of this new and important group of finishing materials are described.

Silicone resins in textiles

F. Fortess (Celanese Corp. of America). *Ind. Eng. Chem. 46:* 2325-2331 (November, 1954).

Apparel fabrics require finishing treatments to enhance their general performance and to overcome specific shortcomings for special end uses. The silicone resins based on liquid methylsiloxane polymers containing reactive groups for subsequent cross linking on the fabric have been found to impart durable water repellency, resistance to aqueous-borne stains, increased tear strength and abrasion resistance, and improved sewability, as well as recovery from wrinkling. The relationship of the resin structure to the properties imparted to the fabric is described. Optimum application conditions and sources of difficulties are outlined. 7 references.

Removing markings from nylon hose

Ciba Rev. No. 106: 3831 (October, 1954).

DYEING AND PRINTING D 2

Azoic dyeing of acetate rayon

I. M. S. Walls (Imperial Chemical Industries Ltd). *J. Soc. Dyers Colourists 70:* 429-436 (October, 1954).

The reasons why azoic dyes cannot be applied to acetate rayon by the technique used with cotton or viscose rayon are reviewed, and the modified azoic technique, in which the base and the coupling component are applied to the fiber in one bath and development is carried out in situ in a second bath, is described. A range of coupling components have been applied to acetate rayon from neutral and from weakly alkaline baths, the latter with and without common salt, and the uptakes have been measured. Similarly the exhaustions of diazo components have been determined. This information is used as a guide to the most suitable azoic components for acetate rayon, and to the conditions under which they should be applied. An investigation has been carried out into the ratio in which the coupling and diazo components should be mixed when they are applied to the fiber together, and the preferred diazotization and coupling conditions have been determined. The factors involved in the soaping aftertreatment are discussed and the recommended soaping conditions are described. The light fastness assessments of a wide range of azoic combinations on bright acetate rayon are tabulated. 12 references.

Barotor improved for greater efficiency

J. H. Andreen (E. I. du Pont de Nemours & Co.). *Textile Age 18:* 38-42 (December, 1954).

Three new and useful dyeing techniques have been developed which make full use of the mechanical and high temperature advantages of Barotor dyeing: (1) use of colorless dyes for achieving brightness, levelness, and wash fastness, (2) application of vat colors to carpeting, (3) high temperature dyeing of Dacron/wool blends without degrading the wool.

Dyeing of cellulose acetate with non-ionic dyes. Part 1. Absolute heats of association

T. G. Majury (Brit. Rayon Research Assoc.). *J. Soc. Dyers Colourists 70:* 442-445 (October, 1954).

The heats of dyeing of five "model" dyes on cellulose acetate have been measured. By combining these with the heats of solution and sublimation of the dyes, the absolute heats of association between dyes and substrate may be evaluated. 16 references.

Dyeing of cellulose acetate with non-ionic dyes. Part 2. Rates of diffusion and their relation to dyeing affinity

T. J. Majury. *J. Soc. Dyers Colourists 70:* 445-447 (October, 1954).

Measurements of the rates of dyeing of five "model" dyes on cellulose secondary acetate and triacetate have been used to evaluate the apparent diffusion coefficients of the dyes. 3 references.

Fastness to pleating of dyeings on polyamide fibers

Ciba Rev. No. 106: 3830-3831 (October, 1954).

State of and possibilities for development in dye jigs

E. Matuschek. *Melliand Textilber. 35, No. 6:* 675-677 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 778 (October, 15, 1954).

The disadvantages of the present constructions are discussed and new constructions are described which ensure dyeings of great uniformity and reproducibility by maintaining a constant dip of the cloth at constant speed.

Flock printing

Arno H. Wirth, Germany. *Skinner's Silk & Rayon Record 28:* 1177 (November, 1954).

The AWR electrostatic flock printing machines are described.

New acetate printing technique

D. Horrocks (Hardman and Holden Ltd). *Skinner's Silk & Rayon Record 28:* 1174-1175 (November, 1954).

The author discusses the application of vat dyestuffs on cellulose acetate in the direct and discharge printed styles using the new reducing agent Manofast. 5 mounted samples.

MECHANICAL PROCESSES D 3

Shrinkage control terminology in knitted fabrics. Part 1

R. G. Frost. *Knitter 18:* 44-45 (November, 1954).

Definition of terms and a brief discussion of the Tube-Tex tensionless calender.

DRYING D 4

Cylinder drying of materials

L. Walter. *Textile Wkly. 54:* 1480-1484 (November 5, 1954).

Basic principles of contact drying of a fibrous web, rate of drying and outside films, surface temperature measurement, thermal drier efficiency, and thermostatic control of cylinder surface temperature are some of the topics discussed.

Drying by superheated steam. Part 1. Mainly theoretical

G. S. Egerton (Manchester College of Technology). *Brit. Rayon & Silk J. 31:* 56-59 (October, 1954).

A two-part study of the principles and practical considerations involved in the development of a high-efficiency fabric drying system.

TESTING AND MEASUREMENT E

Design and analysis of industrial experiments

O. L. Davies, editor. London: Oliver and Boyd (for Imperial Chemical Industries Ltd), 1954. 636 p.

An exhaustive treatise on modern design and interpretation of industrial experiments, with particular reference to the chemical and related processing industries. Many textile applications and examples are covered. The subjects covered range from simple comparative experiments to sequential tests, Latin squares, factorial designs and determination of optimum conditions. The objective of such statistical design and analysis of experiments is to keep the amount of testing and experimenting at a minimum, relative to a maximum of useful information attainable.

Some experience with the design of experiments

J. R. Duffett. *Ind. Quality Control 11:* 36-40 (November, 1954).

Describes the "new look" technique of experimentation, which permits the varying of several factors simultaneously, as opposed to the classical concept of holding all factors constant except one. The particular name for the new experimental design is "replicated factorial analysis" and includes the following elements: (1) selecting at least two factors for study, (2) selecting at least two levels for each factor, and (3) obtaining at least two observations for every combination of levels and factors selected. The principles of randomization to avoid bias and replication to obtain precision must be incorporated in the statistical design. Distinction is made between the statistical replicated factorial and the conventional replicated "butterfly design," and the information lost by the latter. 21 references.

Strength measurements by means of vibrating systems

S. Meyer. *Faserforsch. u. Textiltech. 5, No. 7:* 302-308 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 827 (October, 30, 1954).

An attempt is made to present the mechanical principles of dynamic strength-measurements, with particular reference to practical tests on fibers, filaments and yarns. The equilibrium conditions of vibrating systems (strength testers), with and without damping or test objects, are examined. The higher strength values recorded at higher load velocities are due to the properties of the

testing apparatus and must be considered during its standardization and in the breaking tests.

X-R charts in the spinning shed

Srinagabhushana (S.K.S.J. Technological Institute). *Fibres 15:* 369-372 (November, 1954).

A presentation of conventional statistical control charts for sample averages and ranges in their application to yarn count and strength in spinning.

X-rays aid cotton research

L. Segal and C. M. Conrad (Southern Regional Research Laboratory). *Textile Ind. 118:* 116-120 (December, 1954).

The use made of x-ray techniques by physicists and chemists doing research on textiles to obtain fundamental information on the molecular structure of fibers is surveyed. Adoption of x-rays as an aid in producing better textile raw materials and for process and quality control in textile manufacturing is now in the foreseeable future.

FIBERS E 1

Differentiation of polyamide fibers

H. Ludewig. *Textil-Praxis 9, No. 5:* 463-464 (1954); *in German.* Summary in *Brit. Cotton Ind. Research Assoc. 34:* 788 (October, 1954).

Dynamic friction of viscose fibers and relative humidity

C. Wood (Brit. Rayon Research Assoc.) *J. Textile Inst. 45:* T794-T802 (October, 1954).

The frictional properties of fibers are of great importance in such textile processes as carding and spinning. An apparatus described earlier (*J. Textile Inst. 43:* T338-T349, July 1952) is developed to investigate the relation between the frictional force necessary to withdraw a single fiber from a bundle held in a rectangular channel and the relative humidity. A humidifying system is designed to condition air at the desired relative humidity and a conditioning cabinet, which encloses the apparatus and permits manipulation of the fibers and determination of the relative humidity without disturbance of the equilibrium, is described. The relation between frictional force and relative humidity is determined. 16 references.

Measurement of hardness of textile fibers. Part 1. Jute

A. C. Chakravarty (Indian Central Jute Committee). *J. Textile Inst. 45:* T723-T729 (October, 1954).

In this paper an instrument and method are described for studying the elastic response of three varieties of jute fibers from each of the species *Corchorus capsularis* and *Corchorus olitorius* when stress is applied in the form of a normal compression on the surface of the fiber—this elastic quality is defined as hardness.

Performance of the Arealometer in the measurement of fineness and maturity of raw cotton

W. Morton and S. Radhakrishnan (Manchester Univ.). *J. Textile Inst. 45:* T774-T793 (October, 1954).

The most important fiber dimensions of raw cotton that determine its spinning value are fineness, usually thought of in terms of weight per unit length, and maturity. Testing of fibers has usually, hitherto, been mainly confined to research laboratories, but now attempts are being made to devise means whereby rapid tests can be made in the mill for use in the control of cotton purchase as well in the sorting of bales for accurate make-up of blends. This paper shows that the Arealometer can be used successfully with raw cotton samples, but the results with mechanically processed cotton were not found to be accurate. Further work is being done to find out the reason. 13 references.

A quick way to identify fibers

W. R. Wilson (American Viscose Corp.). *Textile World 104:* 90-92 (December, 1954).

This simplified method offers a workable system for the average technician. The approach is to (1) stain the sample, (2) observe fiber structure in longitudinal view, (3) dissolve the fibers, and (4) confirm by cross section. Table of solvents. Colored chart of identification stains.

YARNS E 2

Two-way lap control

Brush Electronics Co. *Textile World 104:* 132 (December, 1954): *Textile Ind. 118:* 89, 188 (December, 1954).

A picker-lap tester for the continuous measurement and control of both longitudinal and lateral lap thickness. Lap unevenness and weight can be permanently recorded by use of a recording device, and the recorder can be remotely located.

Lap testing and evaluation of the results

O. V. Grossmann. *Textil-Praxis 9, No. 5:* 415-422 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 786 (October 15, 1954).

Reference is made to the various picker lap tests, and a lap testing device, developed by the Spinnereimaschinenbau Ingolstadt and Dr. Masing & Co., Erbach, is described. The device makes it possible to test the fiber distribution over the whole width of the lap. It is sufficient to check

one lap from each picker every third day. The evaluation of the diagrams obtained is discussed and the faults occurring in practice are demonstrated by means of several examples.

Draft-wave recorder

Uster Corp. *Textile World 104:* 134 (December, 1954).

The Spectrograph, an attachment for the Uster evenness tester, indicates the character of irregularities in yarn, roving, and sliver by recording the wave length of the variations. A direct value is given.

Evaluation of measurements of sliver irregularity

O. Konig. *Textil-Praxis 9, No. 6:* 523-525 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 786 (October 15, 1954).

It is shown that the mean value of the average deviation obtained for the cross section of slivers is generally insufficient for determining their regularity. It is advisable to take into account also the mean deviation of irregularity, for the calculation of which an equation is suggested. Errors in measurement are pointed out, and it is shown what way they have to be taken into consideration when evaluating the results.

Variations of count irregularities of a sample of cone yarn spun from Indian cotton in Indian mills for different lengths of yarn

M. Goswami. *Indian Textile J. 64:* 754-756, 758 (September, 1954).

The object of this article is not to study in detail the causes of yarn irregularities and how to remove these defects in different stages of manufacture in spinning mills, but to give the extent of irregularities by actually weighing different lengths of yarn in the analytical balance, so that variations lengthwise are marked out showing nonuniformity in diameter along yarn of considerable length.

Yarn evenness tester Grafotex

O. Lorcher. *Melliand Textilber. 35:* 1283-1285 (November, 1954); *in German.*

A new tester for yarn evenness is described, which works on a mechanical sensing principle, attached to a recorder. Advantages claimed are absence of drift encountered in electronic instruments, higher sensitivity, and freedom from the effects of moisture. An example is given of a 20 denier Perlon monofilament, showing variations as tested on the Grafotex, while according to the article the Uster tester was unable to pick up variations on this fine count. Because of the extremely simple design of the instrument, its cost is only a fraction of that for electronic testers.

Yarn irregularity picture recorder

K. J. Butler and W. T. Cowhig (British Rayon Research Assoc.). *Skinner's Silk & Rayon Record 28:* 1178-1181 (November, 1954).

The authors discuss an instrument which reproduces a picture of what the fabric would look like if woven from the weft yarn under test. Photographs and diagrams. 2 references.

Abrasion tester for yarn

K. Zweigle, Germany. *Textile World 104:* 182 (December, 1954).

The quality of sizing and sizing materials can be determined with this tester.

Continuous yarn testing

Textile Wkly. 54: 1475-1476 (November 5, 1954).

Advantages over single-thread methods.

FABRICS E 3

AHEA consumer standard for corduroy

E. Cooley. *J. Home Econ. 46:* 722-723 (December, 1954).

Lightweight cotton corduroy (pinwale), suitable for use in children's garments, is the third textile commodity for which a consumer standard has been adopted by the American Home Economics Association. The standard is given in full and its development and use discussed.

Automatic cloth-inspection machine

Lindly Instrument & Machine Corp. *Textile World 104:* 130 (December, 1954).

Detects defects such as slubs, knots, gouts, smashes, floats, mispicks, harness skips, broken picks, thick places, thin places, etc., and defines the defect area for visual grading.

Bending tester

K. Zweigle, Germany. *Textile World 104:* 172-174 (December, 1954).

A bending tester for determining the bending coefficient of synthetic fabrics.

Causes of warp stripes in velvet

E. Schumann. *Textil-Praxis 9, No. 5:* 445-446 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 791 (October 15, 1954).

Tests for determining the causes of warp stripes are described and different types of defects are enumerated.

Flammability re-tests issued

Modern Textiles Mag. 35: 48, 76 (November, 1954).

The Combined Textile Association Test Series B, October 1, 1954, Supplement, covers the more widely used fabrics weighing less than two ounces per square yard.

Heat retention in fabrics

M. Giandomenici. *Industrie Textile:* 347-349 (May, 1954); *in French.* Through *Brit. Cotton Ind. Research Assoc. 34:* 790 (October 15, 1954).

Apparatus is described, which makes it possible to determine the thermal behavior of fabrics under all atmospheric conditions during usage (absorption of water and drying, and absorption of artificial and solar heat), with special reference to the new Thermotex fabrics, which consist of a diaphragm of very fine yarn with a carded back- and face-weft, and are able to retain the maximum amount of heat at a minimum weight to insure normal strength.

Soiling of fabrics in contact with the skin

D. Frishman. *Am. Dyestuff Reptr. 43:* P751-P759 (November 8, 1954).

A technique for soiling fabrics through contact with the skin has been devised and a quantitative method developed for measuring the accumulated dirt. A series of experiments on rate and degree of soiling in relation to fiber type, fabric structure and finish show the method to be a convenient and realistic means of studying the factors influencing the accumulation of soil on garments. It has also proved of value for investigating soil removal during laundering and drycleaning. 17 references.

OTHER E 4

Alteration of wool in processing

G. Mazingue, P. Outreman and M. van Overbeke (Chambre Commerce, Roubaix). *Bull. Inst. Textile France No. 41:* 11-19 (1953); *in French.* Through *Chem. Abstracts 48:* 14219 (November 25, 1954).

By use of staining tests with Rhodamine B and with Pauly's reagent, coupled with alkaline solubility, and pH of aqueous extract, it is possible to trace damage at any stage in the processing of wool.

Rapid method for the volumetric determination of antimony, copper, or iron in textile materials

A. G. Hamlin. *Shirley Inst. Mem. 27:* 195-203 (July, 1954).

A method is described whereby antimony, copper and iron are reduced to their lower valence states by the action of titanous chloride in hot, dilute perchloric acid solution. A short period of heating suffices for the oxidation of the excess of the reductant by the perchloric acid, which does not affect the reduced antimony, copper and iron compounds. These are then determined by titration with suitable oxidizing agents. the method is rapid and precise and is subject to few interferences. It is possible to determine antimony and copper, or antimony and iron, in presence of each other but copper and iron cannot be determined separately when both are present. 5 references.

INDUSTRIAL ENGINEERING F

Cost accounting in the textile industry. Part 2

K. R. Aravamuthan. *Indian Textile J. 64:* 742-749, 767 (September, 1954).

See *TTD 11:* 496 (November, 1954).

Selling begins in the textile mill

R. M. Ashner (Werner Textile Consultants). *Canadian Textile Seminar Papers 4:* 119-126 (1954).

A discussion of the methods available to management for co-ordinating mill production facilities and sales potential for maximum efficiency of overall mill and sales operation.

MACHINERY AND MAINTENANCE F 1

Machine interference. A solution of some work-load problems arising when an operative has charge of more than one machine

A. Ormerod and W. S. Sondhelm (*Letter to the Editor*). *J. Textile Inst. 45:* T803-T808 (October, 1954).

Machine interference—reply

J. G. Miller and M. W. H. Townsend (*Letter to the Editor*). *J. Textile Inst. 45:* T808 (October, 1954)

QUALITY CONTROL F 3

Quality control through statistical methods: specifically designed for textile mills

N. L. Enrick. New York: Rayon Publishing Corp., 1954. 74 p. $5.00 (Modern Textiles Handbook No. 2).

A considerably enlarged and revised version of a series of articles appearing from October 1953 through May 1954 in *Modern Textiles Magazine.* Covers basic statistical theory and typical applications, with examples from all four major systems, cotton, woolen, worsted, and filament. Coverage includes raw materials through spinning, weaving, knitting and cut-make-and-trim, as well as finishing. Illustrations are adapted from the author's consulting experience in statistical quality control and related fields. Topics covered are: analysis of variations in processing, control charts, determination of proper amounts of sampling and testing, and management aspects of quality control. Includes a "Guide to Further Reading."

OTHER F 4

Mill of the future. No. 5. Design offering unique process flow

L. Salvador and F. Stahl. *Textile Age 18:* 56-60 (December, 1954).

Modern mill design No. 5 in a series based on work done by a group of students in the School of Architecture at the Massachusetts Institute of Technology.

SCIENCES G

CHEMISTRY G 1

Combination of wool with acids

L. Peters (Leeds Univ.). *J. Soc. Dyers Colourists 70:* 436-441 (October, 1954).

Conclusions drawn from experiments on the combination of keratin with mixtures of sulfuric and hydrochloric acids are criticized. Inconsistencies in the data are corrected, and the results recalculated on this basis. It is shown that the statistical test employed cannot be used to decide between rival theories, and the exact meaning to be attached to *t*-values is illustrated by an example. A critical examination is made of the assumptions which have to be made to test the Donnan and Gilbert-Rideal theories, and the claim that these data favor the latter is rejected. 10 references.

International Congress on Surface Active Agents

Textile Mfr. 80: 536-538 (October, 1954).

Over 200 papers in 17 different sections were presented at this first world congress on surface active agents held recently at the Sorbonne, Paris. Summaries of some of the papers in the textile section are given in this brief review of the proceedings.

Sulfonation—sulfation

J. P. Sisley (Institut de Corps Gras (France). *Am. Dyestuff Reptr. 43:* 741-748 (November 8, 1954).

The following topics are covered: historical, mechanism of sulfonation, sulfonation of fatty alcohols of high molecular weight, saturated aliphatic chain compounds (alkanes), ethylenic straight chain compounds (alkenes), and aromatic hydrocarbons, etc. 47 references.

Uses of cyanamide and its derivatives in textile chemistry

D. Fornelli. *Tinctoria 51, No. 6:* 209-213; *No. 7:* 246-251 (1954); *in Italian.* Through *Brit. Cotton Ind. Research Assoc. 34:* 777 (October 15, 1954).

In continuation of previous articles (see *TTD 11:* 450 (October, 1954)) the author concludes his review by discussing the use of cyanamide derivatives in dyeing and printing, as softening and surface-active agents, as flame-proofing agents, in the preparation of dyes, and as insecticides, germicides, etc. 113 patent references supplement the previously quoted patent literature.

Wettability of nylon, polyethylene terephthalate, and polystyrene by hydrogen-bonding and halogenated liquids

A. H. Ellison and W. A. Zisman. U. S. Naval Research Laboratory. May 1954. 9p. Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. $.50 PB 111 448.

A study has been made of the wettability by a variety of liquids of smooth surfaces of polyethylene terephthalate, nylon, and polystyrene. Comparison of the results for the nylon with previous results for polyethylene and of those for polyethylene terephthalate with those for polystyrene showed that the wettability by polar hydrogen-bonding liquids is increased by the presence of both the amide group and the ester group in the solid surface, but to a much greater extent by the amide group. It was found that perfluorolauric acid could be absorbed on nylon from *n*-decane solution rendering the nylon surface oleophobic.

Soiling of textile materials

W. H. Rees (Brit. Cotton Ind. Research Assoc.). *J. Textile Inst. 45:* P612-P631 (October, 1954).

Factors affecting the susceptibility of textile materials to soil during manufacture and in use are reviewed, and the nature of soiling matter and of the forces influencing fabric-soil adhesion are discussed. Laboratory techniques for the assessment of soiling, for investigating the soiling

of textile materials by airborne matter and by contact with soiled surfaces, and for obtaining a measure of the adhesion of soil to fabrics are described and illustrative experimental data presented. 13 references.

Study of the washing process. Part 10. Electronmicroscopic observation of the washing process

E. Gotte, W. Kling and H. Mahl. *Melliand Textilber. 35:* 1252-1257 (November, 1954); *in German.*

The increasing lightness of shade in washing can be observed under the electron microscope as a reduction in the number of dirt particles on the fiber surface. When no more particles can be detected under the electron microscope, the substrate also appears macroscopically clean. Coarser particles are more readily removed than finer particles. They become difficult to remove as soon as their diameter becomes less than 0.2 μ. Migration of the dirt into the interior of cotton and wool apparently does not take place. 6 references.

Washing agents in the textile industry and their most important properties. Part 2

M. Rosch. *Melliand Textilber. 35, No. 7:* 791-798 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 775 (October 15, 1954).

The role of detergents and of combinations of detergent-active compounds is discussed under the following headings: detergent action in acid medium; principles of detergency; possibility of increasing the detergent action by (a) adding electrolytes to enhance the hydrophilic property of the detergent molecule, (b) introducing hydrophobic substances into the micelle structure, (c) changing the electric charge of fibers and soil, d) impregnation (padding) of stains with detergent solution, and (e) adding solvents, dirt-suspending agents, etc.; detergent action; wash-liquor ratio; soiling; rinsing. For Part 1 see *TTD 11:* 251 (June 1954).

Whiteness retention by satin and crepe lingerie fabrics during normal wear and cleaning

C. H. Lindsey. *Am. Dyestuff Reptr. 43:* P760-P763, P770 (November 8, 1954).

Six college girls assisted in a cooperative wear study to evaluate nylon, rayon with acetate, and silk slips of crepe and satin weave, respectively, to determine how they compared in various properties for quality. The girls wore the slips and returned them to the laboratory where they were laundered. For the laboratory study artificially soiled fabrics were attached to unsoiled swatches and laundered under similar conditions. The slips and samples were evaluated for whiteness retention by spectrol methods and for changes and in other physical properties by textile testing methods. 15 references.

PHYSICS G 2

Electrostatic charge of textile fibers and its prevention

K. Gotze, W. Brasseler and F. Hilgers (Chem. Fabrik Stockhausen & Cie, Krefeld, Germany). *Melliand Textilber. 34:* 141-142, 220-222, 349-350, 451-452, 548-550, 768-769 (1953); *in German.* Through *Chem. Abstracts 48:* 13224 (November 10, 1954).

The electrification of fibers is discussed with special reference to its occurrence in mill operations. The various fibers are compared as regards their ease of electrification which is shown to be closely related to their electrical condition. An explanation is offered for the electrical charge developed on the fibers when they are rubbed together. The means taken in practice to prevent the charging of fibers are reviewed. Tests were made to determine the electrostatic charge (I) developed on wool, cotton, viscose rayon, acetate rayon, and Perlon yarns as the result of the rubbing action against a thread guide at speeds of 50, 80, 180, and 400 m./min. and at relative humidities of 50, 65, and 80%. Increasing the relative humidity reduced I, the effect being greater the greater the speed, but acetate yarns gave anomalous results in that I first increased and then decreased as the speed was increased. The effect of various finishing treatments on I is discussed. Generally, any treatment which reduces the friction between the yarn and the machine or which increases the hygroscopicity of the yarn reduces I.

Electrostatic charges

G. Hummel. *Melliand Textilber. 35, No. 7:* 773-774; *No. 8:* 889-892 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 786 (October 15, 1954).

In this review, the author discusses the nature of electrostatic charges and ionization. Having dealt with interferences encountered in practice and indicated their effects on physical tests, he indicates various measures for preventing or discharging phenomena, and describes measuring methods which have been adopted in practice. Finally, reference is made to the possibility of using radio-active substances. 34 references.

Measurement and discharge of electrostatic charges on textiles

E. Koller. *SVF Fachorgan Textilveredlung 9, No. 5:* 215-227 (1954); *in German.* Through *Brit. Cotton Ind. Research Assoc. 34:* 786 (October 15, 1954).

The mechanism of static electricity is briefly outlined and measurements of the charge on textiles by means of the static rubbing machine, the modulator (rotating voltmeter), and a device for measuring the electrical resistance of textiles are described. It was found that it is possible to produce electrostatically neutral yarn blends from synthetic fibers. The charge on textiles can be reduced, without impairment of machine efficiency or quality of the fabric, by electronic ionization or chemical antistatic agents. Reference is made to products marketed under the name of ZELEC by du Pont, of which ZELEC NK and NE are to be applied to the fiber as temorary antistatic agents before carding, and DX and DP are claimed to give a permanent antistatic finish on nylon, Orlon and Dacron.

MISCELLANY H

AATCC convention abstracts

Textile Ind. 118: 96-99 (November, 1954); 165-173 (December, 1954).

Summaries of papers presented at the 33rd National Convention of the American Association of Textile Chemists and Colorists in September, 1954.

Are your designs inventions, trademarks or writing?

W. J. Derenberg. *Ind. Design 1:* 62-67 (June, 1954).

An interpretation of the present status of the law in the degree of protection it affords to design originality. It discusses such questions as the intention of the law, copyright protection, trademark protection and unfair competition, patent protection or suppression, and the court's side of the problem. The generally uncertain nature of a design patent is stressed, and remedial legislation proposed.

Canadian Seminar abstracts

Textile Ind. 118: 91-94 (November, 1954); 128-137 (December, 1954).

Summaries of papers presented at the 4th Canadian Textile Seminar in September 1954.

Earnings of textile graduates

R. G. Carson, Jr. (Clemson Textile School). *Bobbin and Beaker 13:* 4-5, 13 (Fall, 1954).

Results of a survey of the earnings of Clemson graduates.

Role of industrial research and development in society

M. J. Kelly (Bell Telephone Laboratories). *Ind. Laboratories 5:* 6-10 (December, 1954).

Textile World: 1954-55 fact file issue

Textile World 104: 1-358 (Mid-November, 1954).

Mill reference data and buyer's guide to machinery, equipment, and supplies.

Ceramic, paper, rubber, textile, wood, and other products and processes: government-owned inventions available for license

U. S. Government Patents Board. 1954. 30 p. Available from Office of Technical Services, U. S. Dept. of Commerce, Washington 25, D. C. $1.00. PB 111 470.

Described in this book are 308 government-owned inventions covered by patents active as of December 31, 1953. For each invention, the title of the invention, the U. S. patent number, the name of the inventor, the name of the government agency administering the patent, and an abstract of the patent are given.

Greenville show

Textile World 104: 101-120 (November, 1954).

Textile machinery, equipment and supplies at the Greenville show in October, 1954 are described. Improvements to existing equipment rather than out-and-out new developments highlighted the displays, and a majority of the improvements were directed toward better quality and lower costs rather than higher production.

Modern equipment and processing review

Textile Ind. 118: 100-241 (November, 1954).

A classified guide to new equipment, accessories, supplies and services made available to the textile industry during the preceding year.

New products review

Textile Age 18: 20-83 (November, 1954).

This new products review, in classified form, covers items of unusual interest and importance during the past year.

PATENT CHECKLIST

U. S. Patents may be obtained from the U. S. Patent Office, Washington 25, D. C., for 25 cents per copy. Photostatic copies of foreign patents are available. Charges for these photostats are based on the number of pages in the patent.

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FIBERS A

NATURAL FIBERS A 1

Decorticating machine and method of treating fiber from ramie and similar fiber-bearing plants

C. R. Short and G. E. Short. USP 2 694 832, November 23, 1954.

MAN-MADE FIBERS A 2

Cutter for cutting continuous filaments into fibers of staple length

S. A. Petersen (to Celanese Corp. of America). USP 2 694 448, November 16, 1954.

Method of stretching nylon and similar yarns using two systems of rollers

Inventa AG (Switzerland). BP 709 711, June, 2, 1954.

Process for making rough surfaced filaments

W. A. Hare (to E. I. du Pont de Nemours and Co.). USP 2 695 835, November 30, 1954.

Preparation of staple fibers for subsequent washing treatment

Spinnfaser AG (Germany). BP 709 612, May 26, 1954.

Thread-advancing reel for processing rayon

Courtaulds Ltd. BP 709 873, June 2, 1954.

YARN PRODUCTION B

OPENING, PICKING, FIBER PREPARATION B 1

Apparatus for disintegrating bales of bagasse and like fibrous materials

F. G. L. Becker (to Cellulose Development Corp. Ltd.). USP 2 695 756, November 30, 1954.

Col. 34

Apparatus for oiling or moistening cotton lap prior to spinning

R. Schlumberger (France). BP 708 520, May 5, 1954.

Cotton cleaner and drier

J. E. Melton. USP 2 694 833, November 23, 1954.

Fiber feeding and weighing machine

A. W. Gardes (to Honan-Crane Corp.). USP 2 694 229, November 16, 1954.

Blending of textile fibrous materials

W. A. Hunter and F. Singleton (to T.M.M. (Research) Ltd). BP 706 043, March 24, 1954.

Method and apparatus for blending or mixing textile fibers

J. J. Rieter & Cie AG (Switzerland). BP 709 933, June 2, 1954.

Method of and apparatus for continuous mixing of textile fibers

J. J. Rieter & Cie AG (Switzerland). BP 705 306, March 10, 1954.

CARDING AND COMBING B 2

Flat cards

Kulmbacher Spinnerei (Germany). BP 705 334, March 10, 1954.

Lap feeding apparatus of carding engines

H. Oelhafen-Hirzel. BP 708 822, May 12, 1954.

DRAWING AND ROVING B 3

Apparatus for drawing textile roving

R. Peuto (Italy). USP 2 694 836, November 23, 1954.

Bobbin wheels for slubbing or roving frames

W. Gaunt (to Gaunt, Rhodes and Bower Ltd). BP 709 643, June 2, 1954.

Defective work detector and stop motion for sliver producing machines

R. J. de Lathauwer. USP 2 694 838, November 23, 1954.

Drafting apparatus for textile fibers

J. Noguera (to Casablancas High Draft Co. Ltd). USP 2 696 026, December 7, 1954.

Drafting aprons for textile machinery

K. E. Whitehead (to Andre Rubber Co. Ltd). BP 708 166, April 28, 1954.

Improved arm retaining-catch for holding the top roller weighting arm on Casablancas drafting frames

J. Noguera (to Casablancas High Draft Co. Ltd). BP 708 490, May 5, 1954.

Lint deflector for textile rolls

W. C. Wright. USP 2 694 837, November 23, 1954.

Mechanism for drawing roving of different staple lengths

W. Naegeli (to J. J. Rieter & Cie, Switzerland). USP 2 695 428, November 30, 1954.

Mounting for top weighting rollers to minimize the effect of accumulated fly

Vereinigte Kugellagerfabriken AG (Germany). BP 708 387, May 5, 1954.

Non-licking material for drafting roller cots and aprons

M. Balkin and D. G. Turner (to George Angus & Co. Ltd). BP 706 202, March 24, 1954.

Rollers designed to reduce fly accumulation

Schiess AG (Switzerland). BP 706 023, March 24, 1954.

Sliver coiler

I. C. Howes and D. J. Grieco (to Davis & Furber Machine Co.). USP 2 695 429, November 30, 1954.

Sliver condenser for textile drawing machinery

W. J. Wood (to St. John's Textile Mills Ltd). BP 705 039, March 3, 1954.

Spinning and preparatory machines in which top drafting rollers are carried by a series of pivoted arms that incorporate springs or other roller weighting means

J. Noguera (to Casablancas High Draft Co. Ltd). BP 706 136, March 24, 1954.

Stop mechanisms for drawing frames and similar textile machines

J. P. Mackie (to James Mackie & Sons Ltd). BP 706 192, March 24, 1954.

Supporting and weighting device for the top rolls of textile drawing mechanisms

E. F. Dausch (to Vereinigte Kugellagerfabriken AG). USP 2 694 230, November 16, 1954.

Textile drafting apparatus with wide belts serving at least two spindles

Schiess AG (Switzerland). BP 709 004, May 12, 1954.

Textile spinning and drafting apparatus

W. G. Byerley (to T.M.M. (Research) Ltd.). BP 706 054, March 24, 1954.

SPINNING, WINDING, TWISTING B 4

Adjustable backing-off relieving motion cam for high-speed woolen spinning mules

C. W. King (to Marling & Evans Ltd). BP 705 581, March 17, 1954.

Combination of a ring and traveler made from nylon or other plastic

J. & P. Coats Ltd. BP 705 553, March 17, 1954.

Means for effecting adjustment of spindle mountings on textile machines

E. Findlow (to Ernest Scragg & Sons Ltd). BP 709 950, June 2, 1954.

Means for stabilizing the speed of an electric motor for an electronic mule

N. H. Chamberlain and B. E. King (to T.M.M. (Research) Ltd). BP 706 071, March 24, 1954.

New means of twisting and spinning replacing rings, flyers and travelers with a winding drum rotating horizontally inside a rotating pot

R. Ragan. BP 708 683, May 5, 1954.

Speed control devices for spinning machines

Siemens-Schuckertwerke AG (Germany). BP 704 795, March 3, 1954.

Spindle driving apparatus for spinning, doubling, twisting and like machines

M. Markowicz and J. J. Haythornthwaite (to Tweedales & Smalley Ltd). BP 709 261, May 19, 1954.

Spindle for a textile spinning or twisting machine

W. J. Netelenbos, M. Otger and J. G. Robbenhaar (Germany). BP 709 609, May 26, 1954.

Machine for winding thread

H. F. Borg. USP 2 695 757, November 30, 1954.

Winding machine

W. L. Perry and E. J. Abbott (to Abbott Worsted Mills). USP 2 695 138, November 23, 1954.

Yarn winding machine

A. E. Winslow and J. A. Bradshaw (to J. P. Stevens & Co., Inc.). USP 2 694 896, November 23, 1954.

FABRIC PRODUCTION C

Guide for yarn carriers

E. Jentsch. USP 2 694 303, November 16, 1954.

Thread stripping guide

W. V. Henry (to American Enka Corp.). USP 2 694 915, November 23, 1954.

Thread tensioning device

L. Sailer (to Joseph Sailer Maschinenfabrik). BP 708 255, May 5, 1954.

Textile bobbin support and spacer

J. Annicq (Belgium). USP 2 694 913, November 23, 1954.

WARPING, SLASHING, YARN PREPARATION C 1

Apparatus for setting the twist in yarn

E. J. Masich, P. Miller and L. Beck (to Alexander Smith, Inc.). USP 2 695 509, November 30, 1954.

Beaming apparatus

J. S. Chaya (to American Viscose Corp.). USP 2 694 848, November 23, 1954.

High speed warp beaming machines

A. W. Bonser and J. Macaulay (to Fine Spinners & Doublers Ltd). BP 708 938, May 12, 1954.

Process of piecing the warp ends of a warp beam to the warp ends of another warp beam

W. Felton (to David Crabtree & Son Ltd). BP 709 121, May 19, 1954.

Drive mechanisms for maintaining a substantially constant surface speed in a growing yarn package

A. MacIver (to Hobourn Aero Components Ltd). BP 708 930, May 12, 1954.

WEAVING C 2

Apparatus for cutting waste yarn from flanged bobbins

H. Ewing (to British Celanese Ltd). BP 705 281, March 10, 1954.

Arrangement for braking the warp beam on looms

G. Fischer AG (Switzerland). BP 708 289, May 5, 1954.

Arrangement for guiding push rods for the control of heddles in weaving looms

Y. Latieule (to Comptoir Linier, France). BP 708 470, May 5, 1954.

Automatic shuttle change looms

H. G. Walker and J. Eskdale. BP 708 652, May 5, 1954.

Automatic shuttle-changing mechanisms of looms for weaving

C. Turner. BP 708 522, May 5, 1954.

Beating-up reed for multiple-shuttle and circular looms

Y. Latieule (to Comptoir Linier). BP 708 584, May 26, 1954.

Circular looms

G. Casati and C. Cazzaniga (Italy). BP 708 015, April 28, 1954.

Device for stripping weft from discarded bobbins in automatic bobbin change looms

G. E. Probets. BP 708 675, May 5, 1954.

Electrically operated stop motion for looms

J. C. Case. USP 2 696 225, December 7, 1954.

Electromagnetic driving devices for shuttles of looms

W. Filter. BP 709 299, May 19, 1954.

Gripper shuttle loom

E. Pfarrwaller (to Sulzer Frères). USP 2 696 222, December 7, 1954.

Loom check strap

L. E. Vigliatura, Jr. (to Graton & Knight Co.). USP 2 694 417, November 16, 1954.

Loom heald

M. M. Taylor (to British Celanese Ltd). USP 2 695 440, November 30, 1954.

Machine for operating upon heddles

R. E. Borchardt (to Barber-Colman Co.). USP 2 695 439, November 30, 1954.

Means for separating the endmost member from a stack or bank of metal drop-pins for loom warp stop-motions

R. Terry and J. Osbaldeston (to T.M.M. (Research) Ltd). BP 709 424, May 26, 1954.

Mechanical picker stick check and parallel motion for looms

A. H. Smart (to Hardwood Mfg. Co.). USP 2 696 223, December 7, 1954.

Pick and pick mechanism

J. Fisher (to the Warner & Swasey Co.). USP 2 695 635, November 30, 1954.

Picker buffer that minimizes noise and shock vibrations

C. Whittingham (to Richard Haworth & Co. Ltd). BP 708 952, May 12, 1954.

Pickers for under-pick looms

H. Hargreaves. BP 708 902, May 12, 1954.

Picking motion for looms

S. O. Dodge (to H. F. Livermore Corp.). USP 2 694 416, November 16, 1954.

Shuttle eyelet that is easily threaded but prevents the thread from accidentally unthreading during weaving

R. Halstead (to R. Halstead & Sons Ltd). BP 708 560, May 5, 1954.

Thread cutting mechanism for weft replenishing loom

H. H. Holcombe. USP 2 696 224, December 7, 1954.

Traveling loom cleaner

G. B. Holtzclaw (to Parks-Cramer Co.). USP 2 695 039, November 23, 1954.

Weaving of fabrics other than those having taffeta bindings

Gebruder Staubli & Co. (Germany). BP 709 647, June 2, 1954.

KNITTING C 3

Automatic draw-off device for circular knitting machines

V. H. Butler (to Burlington Mills Corp.). USP 2 694 304, November 16, 1954.

Circular single or multineedle bed knitting machine

M. Lafeuillade (France). USP 2 694 305, November 16, 1954.

Combined knitting machine, fiber blender and feeder, and stop-motion device

D. P. Moore. USP 2 694 907, November 23, 1954.

Flaw detector for knitting machines and the like

H. E. Peck. USP 2 694 911, November 23, 1954.

Machine and method of joining rows of loops of knitted fabric, and particularly of closing the toes and heels of full-fashiened stocking blanks

A. Shortland (to Mellor Bromley & Co. Ltd). USP 2 696 093, December 7, 1954.

Needle for knitting machines

H. C. Noe (to Kidde Mfg. Co., Inc.). USP 2 694 909, November 23, 1954.

Pattern mechanism for knitting machines

R. H. Lawson (to Scott & Williams, Inc.). USP 2 694 908, November 23, 1954.

Stocking and method of making same

S. J. Haddad (to Standard Hosiery Mills). USP 2 696 096, December 7, 1954.

Thread guide mechanism for a warp knitting machine

C. E. Weinberg. USP 2 694 302, November 16, 1954.

Warp knitting machine level indicator

W. T. Boyer (to American Viscose Corp.). USP 2 694 301, November 16, 1954,

Two-by-two rib knitted fabric with selvage

W. A. Zieve. USP 2 696 095, December 7, 1954.

Warp knitting machine tensioning device

T. F. Schwanda and C. J. Brown (to Blue Ridge Textile Co., Inc.). USP 2 696 094, December 7, 1954.

Welt turning mechanism in straight bar knitting machine and method of turning a welt

A. Shortland (to Mellor Bromley & Co. Ltd). USP 2 695 505, November 30, 1954.

FABRICS C 4

Glass-fiber filter-fabric for dust-extraction plants

Maschinenfabrik Beth AG (Germany). BP 709 075, May 12, 1954.

Method and apparatus for making pile fabric

P. Miller and R. F. Bardsley (to Alexander Smith, Inc.). USP 2 695 634, November 30, 1954.

Method for forming reversible pile fabric

E. D. Lacey (to Russell-Lacey Mfg. Co.). USP 2 696 181, December 7, 1954.

Method of making textured pile fabric

L. A. Runton (to Alexander Smith, Inc.). USP 2 695 441, November 30, 1954.

Process and apparatus for flocking fabric

S. M. Schwartz and D. Gross (to Velveray Corp.). USP 2 696 445, December 7, 1954.

Shuttle feeder for embroidering machines

K. Lindner. USP 2 694 374, November 16, 1954.

FINISHING AND CHEMICAL PROCESSING D

CHEMICAL PROCESSES D 1

Antistatic compositions for textiles

L. E. Hughes (to E. I. du Pont de Nemours and Co.). USP 2 694 688, November 16, 1954.

Oil soluble cationic textile antistatic agent

G. D. Jefferson and A. V. Riley, Jr. (to Atlas Powder Co.). USP 2 695 270, November 23, 1954.

Apparatus for the liquid treatment of running filamentary materials

I. S. Roberts (to American Viscose Corp.). USP 2 694 912, November 23, 1954.

Apparatus for treating yarn with liquids

H. A. Kuljian. USP 2 694 308, November 16, 1954.

Coating rubber impregnated yarns with paraffin wax

N. Lawson (to Lewis & Taylor Ltd). BP 708 278, May 5, 1954.

Finishing process for increasing the strength and durability of textile fibers and fabrics

L. L. Nicolau (to British Intercontinental Corp.). BP 708 268, May 5, 1954.

Modified silica aquasol and textile fibers treated therewith

E. H. Rossin (to Monsanto Chemical Co.). USP 2 696 444, December 7, 1954.

Production of textile materials showing differential color and/or delustered effects

H. Paul and J. Willock (to Courtaulds Ltd). BP 709 832, June 2, 1954.

Textile-softening composition

M. Kosmin (to Monsanto Chemical Co.). USP 2 695 243, November 23, 1954.

Treatment of dielectric materials to prevent or reduce development of electrostatic charges

Johnson & Johnson (Gt. Britain) Ltd. BP 709 555, May 26, 1954.

Producing figured effects on textile fabrics with resins

F. V. Davis (to Bleachers' Association Ltd). BP 709 735, June 2, 1954.

Heat-reflective fabrics and method of production

K. H. Barnard and J. J. Dudkowski (to American Cyanamid Co.). USP 2 695 895, November 30, 1954.

Improved heat resistance by impregnating acetylated cotton or cellulose wood pulp with an aqueous solution of dicyandiamide

Sandoz Ltd (Switzerland). BP 708 282, May 5, 1954.

Process for making flameproofed dyed aminized cotton fabrics

O. J. McMillan, Jr. and J. D. Guthrie (to United States of America). USP 2 695 833, November 30, 1954.

Water-soluble asymmetric ureas and thioureas for mothproofing

Variapat AG (Switzerland). BP 709 455, May 26, 1954.

Method of dry cleaning and weatherproofing fabrics

W. H. Shields and J. A. Piepmeyer (to Emery Industries, Inc.). USP 2 695 250, November 23, 1954.

Redman method of reducing shrinkage in tubular knitted fabrics

F. R. Redman (to Redman Process International Inc.). BP 708 654, May 5, 1954.

Shrinkproofed wool and method for producing same

I. P. Hammer and J. B. Rust. USP 2 696 448, December 7, 1954.

Water-repellent finishes resistant to washing and aqueous emulsions therefor

Ciba Ltd (Switzerland). BP 709 333 and 709 386, May 19, 1954.

Treatment of materials with silicon compounds to improve water-repellency

S. R. Cockett, J. G. Evans and G. Landells (to Bradford Dyers Assoc. Ltd). BP 708 821, May 12, 1954.

Process for rendering fibrous materials water-repellent

Dynamit AG (Germany). BP 708 026, April 28, 1954.

Method and means for providing wrinkles in textile fabrics

A. S. Jones (to Cranston Print Works Co.). USP 2 695 653, November 30, 1954.

Setting nylon and Terylene fabrics using benzyl alcohol

G. K. Mecklenburgh, S. Shaw and H. W. Peters (to British Nylon Spinners Ltd). BP 708 814, May 12, 1954.

Setting and stiffening nylon fabrics

G. K. Mecklenburgh, S. Shaw and H. W. Peters (to British Nylon Spinners Ltd). BP 708 815, May 12, 1954.

DYEING AND PRINTING D 2

Apparatus for dyeing textile materials by immersion and beating

G. E. Henry. USP 2 694 307, November 16, 1954.

Dyeing of acrylic fibers with vat dyestuffs

H. R. Mautner (to General Aniline & Film Corp.). USP 2 695 832, November 30, 1954.

Method and apparatus for continuous printing and flocking

H. Fountain (to United Merchants and Manufacturers Inc.). USP 2 695 244, November 23, 1954.

Molten metal dyeing of wool fabric in continuous length with vat or sulfur dyes

W. Kilby and J. L. Harris (to Standfast Dyers & Printers Ltd). BP 708 934, May 12, 1954.

Process and apparatus for jig dyeing

W. T. Normand (to Celanese Corp.). USP 2 696 421, December 7, 1954.

Reserving of synthetic polyamide fibers when dyeing mixed natural and synthetic fibers

J. R. Geigy AG (Switzerland). BP 709 977, June 2, 1954.

MECHANICAL PROCESSES D 3

Carpet shearing mechanism

W. G. Bejeuhr (to Alexander Smith, Inc.). USP 2 695 438, November 30, 1954.

Mechanical device for crimping nylon or other yarn

A. W. Swartz (to Wildman and Swartz, Inc.). USP 2 696 034, December 7, 1954.

DRYING D 4

Apparatus for drying fabrics

W. Murphey. USP 2 696 055, December 7, 1954.

Apparatus for fixing a dye in a textile material

C. O. Erikson and N. D. Landquist (to Rydboholms Akt). USP 2 696 098, December 7, 1954.

TESTING AND MEASUREMENT E

YARNS E 2

Apparatus for determining yarn regularity

F. A. Greenwood and F. C. Robinson (to T.M.M. (Research) Ltd). BP 705 525, March 17, 1954.

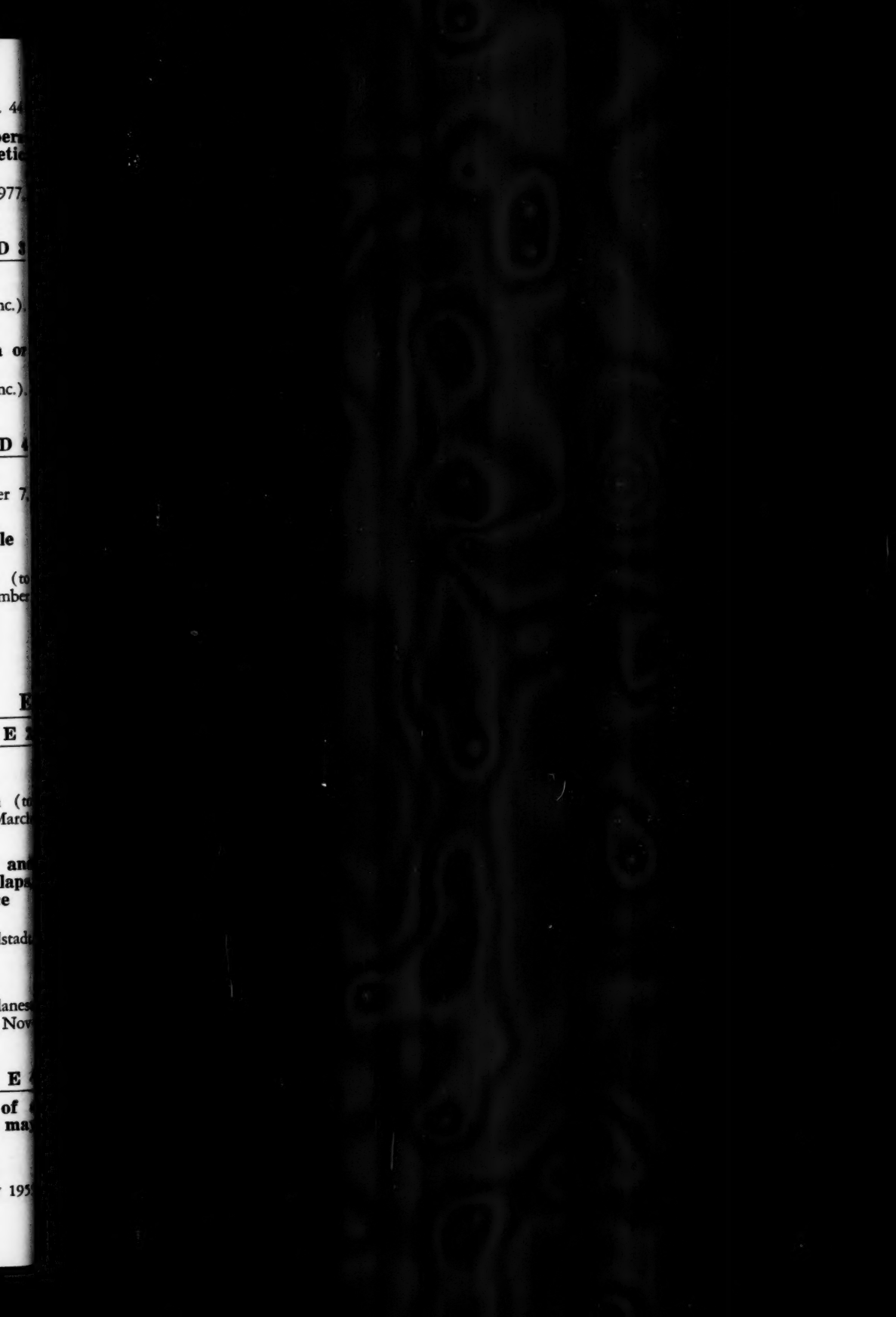
Apparatus for registering the length and number of variations in thickness of laps differing from an adjustable tolerance range

Deutscher Spinnereimaschinenbau Ingolstadt. BP 705 319, March 10, 1954.

Slub counting device

F. Nistico and B. S. Sprague (to Celanese Corp. of America). USP 2 694 311, November 16, 1954

OTHER E 4

Determining the moisture content of a yarn package in which the moisture may be distributed unevenly

J. L. Shaw. BP 709 177, May 19, 1954.